

### Amendments to the Claims

The following Listing of Claims replaces all prior versions, and listings, of claims in the application.

#### Listing of Claims:

Claim 1 (currently amended): A method of topographically mapping a surface, comprising:

directing a radiation beam toward a target location on the surface;

capturing an image of a beam spot at a location in an image plane intersecting at least a portion of the radiation beam reflected from the target location on the surface;

identifying at least one image plane coordinate for a peripheral point of the beam spot image;

determining at least one coordinate in the image plane corresponding to the identified peripheral point; and

assigning a relative height value to the target location based on a mapping of the at least one image plane coordinate identified for the peripheral beam spot point to the relative height value.

Claim 2 (original): The method of claim 1, wherein the radiation beam is directed along a beam axis and an image plane coordinate is identified with respect to a first direction substantially parallel to a projection of the beam axis onto the image plane.

Claim 3 (currently amended): A method of topographically mapping a surface, comprising:

directing a radiation beam toward a target location on the surface, wherein the radiation beam is directed along a beam axis;

capturing an image of a beam spot at a location in an image plane intersecting at least a portion of the radiation beam reflected from the target location on the surface;

identifying at least one image plane coordinate for a peripheral point of the beam spot image The method of claim 2, wherein the peripheral point is located at a peripheral area of the beam spot closer to the beam axis than other comparable peripheral areas of the beam

spot and an image plane coordinate is identified with respect to a first direction substantially parallel to a projection of the beam axis onto the image plane; and  
assigning a relative height value to the target location based on a mapping of the at least one image plane coordinate identified for the peripheral beam spot point to the relative height value.

Claim 4 (currently amended): The method of claim 1, wherein the identifying the at least one image plane coordinate comprises applying a threshold to pixel values of the beam spot image to identify the peripheral point.

Claim 5 (currently amended): The method of claim 4, wherein a normalized grayscale threshold is applied to the pixel values of the beam spot image to identify the peripheral point.

Claim 6 (currently amended): The method of claim 1, wherein the assigning a of the relative height value to the target location comprises mapping the at least one image plane coordinate to a predetermined relative height value.

Claim 7 (original): The method of claim 6, wherein the at least one image plane coordinate is mapped to the predetermined relative height value based on a lookup table.

Claim 8 (original): The method of claim 1, wherein the surface forms a boundary of a substrate and is semitransparent with respect to the radiation beam.

Claim 9 (original): The method of claim 8, wherein the substrate is a printed circuit board.

Claim 10 (currently amended): The method of claim 9, further comprising repeating the steps of directing, capturing, identifying, determining, and assigning for a plurality of target location on the surface of the printed circuit board arranged in a prescribed triangular mesh pattern.

Claim 11 (original): A system for topographically mapping a surface, comprising:  
a radiation source oriented to direct a radiation beam toward a target location on the  
surface;

an imager oriented to capture an image of a beam spot at a location in an image plane  
intersecting at least a portion of the radiation beam reflected from the target location on the  
surface;

a mapping engine operable to identify ~~at least one image plane coordinate for a~~  
~~peripheral point of the beam spot image, determine at least one coordinate in the image place~~  
~~corresponding to the identified peripheral point, and to assign a relative height value to the~~  
target location based on a mapping of the ~~at least one image plane coordinate identified for~~  
~~the peripheral beam spot point~~ to the relative height value.

Claim 12 (currently amended): The system of claim 11, wherein the radiation source  
is oriented to direct the radiation beam along a beam axis, and the mapping engine is operable  
to identify ~~an image~~ ~~an image~~ plane coordinate with respect to a first direction substantially  
parallel to a projection of the beam axis onto the image plane.

Claim 13 (currently amended): A system for topographically mapping a surface,  
comprising:

a radiation source oriented to direct a radiation beam along a beam axis toward a  
target location on the surface;

an imager oriented to capture an image of a beam spot at a location in an image plane  
intersecting at least a portion of the radiation beam reflected from the target location on the  
surface;

a mapping engine operable to identify at least one image plane coordinate for a  
peripheral point of the beam spot image, and to assign a relative height value to the target  
location based on a mapping of the at least one image plane coordinate identified for the  
peripheral beam spot point to the relative height value  
~~The system of claim 12, wherein the~~  
peripheral beam spot point is located at a peripheral area of the beam spot closer to the beam  
axis than other comparable peripheral areas of the beam spot ~~and the mapping engine is~~  
~~operable to identify an image plane coordinate with respect to a first direction substantially~~  
~~parallel to a projection of the beam axis onto the image plane.~~

Claim 14 (currently amended): The system of claim 11, wherein the mapping engine is operable to identify the ~~image plane coordinates~~peripheral point by applying a threshold to pixel values of the beam spot image.

Claim 15 (currently amended): The system of claim 14, wherein the mapping engine is operable to apply a normalized grayscale threshold to the pixel values of the beam spot image to identify the peripheral point.

Claim 16 (original): The system of claim 11, wherein the mapping engine is operable to assign a relative height value to the target location by mapping the at least one image plane coordinate to a predetermined relative height value.

Claim 17 (original): The system of claim 16, wherein the mapping engine is operable to map the at least one image plane coordinate to the predetermined relative height value based on a lookup table.

Claim 18 (currently amended): A computer program for topographically mapping a surface, the computer program residing on a computer-readable medium and comprising computer-readable instructions for causing a computer to:

identify ~~at least one image plane coordinate for~~ a peripheral point of a beam spot image captured at an image plane intersecting at least a portion of radiation beam reflected from a target location on the surface;

determine at least one coordinate in the image plane corresponding to the identified peripheral point; and

assign a relative height value to the target location based on a mapping of the at least one image plane coordinate ~~identified for the peripheral beam spot point~~ to the relative height value.

Claim 19 (currently amended): A computer program for topographically mapping a surface, the computer program residing on a computer-readable medium and comprising computer-readable instructions for causing a computer to:

identify at least one image plane coordinate for a peripheral point of a beam spot image captured at an image plane intersecting at least a portion of radiation beam reflected from a target location on the surface ~~The computer program of claim 18, wherein an image plane coordinate is identified with respect to a first direction substantially parallel to a projection onto the image plane of a beam axis of a radiation beam directed toward the target location, and the peripheral beam spot point is located at a peripheral area of the beam spot closer to the beam axis than other comparable peripheral areas of the beam spot; and~~

assign a relative height value to the target location based on a mapping of the at least one image plane coordinate identified for the peripheral beam spot point to the relative height value.

Claim 20 (currently amended): The computer program of claim 18, wherein the computer-readable instructions identify the peripheral beam spot point ~~the at least one mage plane coordinate is identified by applying a threshold to pixel values of the beam spot image.~~

Claim 21 (new): The method of claim 1, wherein the identifying comprises applying a threshold to pixel values of the beam spot image to identify a peripheral point of the beam spot image that corresponds to a highest point of reflection from the target location as the peripheral point.